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Methodology for Developing the Creative and Innovative Abilities of Future Teachers

Farxodova Dilnoza Qudrat qizi
Bukhara State University, Theory and Methodology of Education and Training (Primary Education) PhD student

Abstract: This article analyzes the issue of developing the creativity of future teachers in teacher preparation and improving the quality of education. It outlines approaches to studying the concepts of creativity and innovation. It also discusses the role and significance of PIRLS (Progress in International Reading Literacy Study) in the educational process, its application in developing students' creative abilities, the directions of the study, and the procedure for conducting it.

Keywords: Creativity, innovation, education, training, future teacher, pedagogical creativity, approach, international research, research program, ability, assessment processes, international assessment program, PIRLS study, research methodology.

Introduction:

In recent years, reforms in Uzbekistan have led to significant economic growth, increasing the demand for qualified personnel and experts in all sectors. This, in turn, requires a greater focus on enhancing students' interest in lessons and teachers' attention to comprehensive education and training.

It is essential to recognize that improving the quality of education is crucial for the educational system, and like many foreign countries, advanced experiences aimed at improving the quality of education through evaluation and monitoring of education and science development should be implemented. The introduction of international standards and practices is critical for improving the effectiveness of education.

Recent changes in the education sector have led to new demands for the preparation of future teachers. The role of collaborative pedagogy is increasing in improving the quality of modern education. The introduction of new educational standards has set the task for higher education institutions to train competent, skilled teachers. These teachers must be able to apply the knowledge and skills they have gained in non-standard situations and find original solutions to professional problems.

However, it should be noted that the necessary professional and personal qualities for a teacher, such as creativity and innovative abilities, are not included in the list of competencies that are traditionally acquired.

Main Part:

The term “creativity” (from Russian “креативность”, English “creativity”, Latin “create”) means to create, generate, or have the ability to innovate.

The formation and study of creativity have been topics of interest to scholars worldwide, including D. Guilford, E.P. Torrance, S. Mednik, C. Rogers, J. Renzulli, R. Sternberg, J. Taylor, and others. They have examined creativity from a personal perspective, linking it to intelligence, and explored diagnostic methods for studying creativity.

According to E.P. Torrance, the development of creativity allows overcoming external constraints and standards. Creativity is seen as the ability to recognize and embrace the lack of knowledge, their disharmony, and to find solutions.

E.P. Torrance views creativity as a process of identifying problems, finding solutions, testing hypotheses, and refining them.

S. Mednik highlights the importance of distinguishing between verbal and non-verbal creativity. Verbal creativity involves expressing original ideas in speech, especially in problem-solving situations, while non-verbal creativity is the manifestation of creative abilities in artistic forms, such as images or drawings.

E. Fromm considers creativity to be the ability to find solutions in non-standard situations and the capacity to recognize and understand them. Creativity, in his view, is about discovering something new and deeply understanding one’s own experience.

J. Renzulli views creativity as a personality trait, emphasizing the search for original methods or solutions to problems and expressing a new approach to the issue.

A.Maslow defines creativity as a quality that can be applied in all areas of life. He suggests that creativity is inherent in all individuals from birth, although it may be lost due to external influences. Maslow believes that while intellectual abilities are necessary, they are not the only condition for the emergence of creativity. The primary factors influencing creativity are motives, values, and personal characteristics. A creative individual is characterized by cognitive abilities, the capacity to feel problems, and the ability to make independent judgments.

Scholars like D.B. Bogoyavlenskaya, I.P. Koloshina, A.M. Matyushkin, A.Ya. Ponomarev, and others emphasize that creativity emerges as intellectual initiative within the context of creative activity.

D.B. Bogoyavlenskaya defines creativity as the highest form of intellectual activity, driven by intellectual initiative. According to her, creativity emerges when there is a desire to break out of the boundaries of the given problem. The unifying factor in creativity is intellectual activity, which is seen as an integral aspect of personal characteristics, and is realized through intellectual and motivational components.

In psychological-pedagogical literature, the concepts of “creativity” and “innovation” are often studied in relation to each other. Researcher N.M. Gnatko distinguishes between “innovation” and “creativity,” viewing them as two aspects of the same phenomenon. In his view, innovation is the process-oriented result, while creativity refers to the subjective and relational side of the process.

Researchers A.K. Markova, L.M. Mitina, and Ya.A. Ponomarev argue that “creativity” and “innovation” are conceptually close, with creativity being the creative approach within one’s activity, closely related to innovation.

Three main approaches to studying the concepts of "creativity" and "innovation" can be distinguished:

1. Creativity and innovation are viewed as synonyms, meaning the study of creativity is the same as the study of innovation in psychological terms. These concepts are not differentiated.
2. Creativity is studied as an independent phenomenon, viewed as the subjective-personal aspect of education, while innovation is seen as the emergence of novelty in the socio-cultural context.
3. Creativity is studied as a specific aspect of innovation, focusing on the internal resources of an individual, with creativity being one of the creative aspects of innovation.

Many researchers emphasize the crucial role of motivation in the creative process. According to F. Berron, "Many people have the potential for creativity, but not everyone can access it. The key factor is motivation."

The development of creative personalities can only occur through the guidance of creative teachers, as the role of the teacher in developing creativity differs significantly from the traditional role of simply delivering knowledge. The task of the creative teacher is to open up the personal potential of the student.

Scholars such as V.N. Druzhinin, L.I. Larionova, A.M. Matyushkin, V.I. Panov, A.Ya. Ponomarev, and J. Renzulli demonstrate how teachers can play a leading role in supporting students' creative potential.

Researchers such as V.E. Inozemsev, N.V. Kuzmina, and L.Ya. Miloradov emphasize that a creative teacher should have foundational knowledge (in project-based learning, creatively processing materials, and adapting them to the final educational outcomes), as well as the ability to organize and support students' creative activity during lessons. A teacher must be able to analyze their experiences, adapt the learning process, and present it in an original system that matches the students' level of understanding.

Pedagogical creativity, from a psychological perspective, refers to the readiness of an individual to adapt to changes in educational situations. It enhances the effectiveness of teaching, increasing the interaction and mutual connection between the teacher and student.

Indicators of pedagogical creativity include creative mood, enthusiasm, working capacity, love for children, and qualities such as creativity, ingenuity, thinking, and creative observation.

According to V.G. Rindak, creativity in a teacher is characterized by creative independence, the ability to foresee and predict the development of pedagogical processes, and the quality, originality, and uniqueness of their activity outcomes.

I.P. Osobov connects pedagogical creativity to the competence of teachers' professional development. He proves that pedagogical competence creates the foundation for creative decision-making, for demonstrating pedagogical creativity, for independently acquiring knowledge, and for applying it in social and professional contexts.

The study of creativity is essential for improving the education process. Creative students are more engaged and active learners, and creativity transforms passive information into active problem-solving. Developing creativity from a young age prepares individuals to handle everyday problems effectively and become more proactive during adulthood. Thus, one of the key goals of education is to equip students for their future lives and nurture them into productive citizens. Consequently, much attention is being given to the development of students' creative abilities, the methods, tools, and approaches used to enhance creativity in education.

The development of effective thinking skills in students is one of the main tasks of education. Despite significant changes in the field of education from Socrates to the present day, the goal of empowering students with thinking abilities has always been at the heart of education. Creativity is not a concept with a simple definition. Creativity is the desire to find an original product or solution. Desire and imagination are the key elements of creativity. According to Sternberg and Lubart (1998), merely having uniqueness is not sufficient for creativity. Torrance (1988) defined creativity as the process of noticing difficulties, problems, gaps in knowledge, missing elements, or any anomalies: it involves hypothesizing about these gaps, forming and testing hypotheses, reviewing and re-testing them, and finally presenting the results.

Currently, in every teaching process in schools, teachers aim to prepare students to become successful individuals in life and to provide them with the necessary skills for the 21st century. The development of students' creative abilities and the methods and tools used for this purpose are no exception. The development of students' creativity and the methods and tools used also contribute to enhancing their intellectual capabilities, allowing them to adapt to various situations, respect society, and approach ideas with an open mind. It is well-known that the essential competencies of the 21st century include special skills to be enhanced in educational activities, such as critical thinking, creative abilities, problem-solving, metacognition, communication skills, collaboration, innovation, creativity, and information literacy.

One of the main tasks of pedagogy is to create conditions that ensure the all-around development of students' creative activities. Additionally, it is essential to identify students who demonstrate deep interest, aspiration, and talent in specific fields, providing them with opportunities for further development. To achieve this, creating conditions that foster the creative activities of school-age students is of paramount importance. In this regard, the role and level of the methods, forms, and tools used to develop students' creative abilities are heightened. In this context, the teacher's efforts are also crucial. This is because the teacher prepares students for innovative activities that promote creativity, establishes a collaborative relationship between teacher and student, and applies innovative technologies, modern methods, and the most effective forms and tools in the development of creative activities, all of which are the most practical approaches in fostering students' creative abilities.

In our country, one practical step in the field of education quality has been the establishment of international research on educational achievements. For example, the collaboration with the International Association for the Evaluation of Educational Achievement (IEA) has been a significant development. Most of the research conducted by the IEA focuses on assessing students' academic performance in one or more subjects or through interdisciplinary coherence, which helps analyze educational processes both globally and within each country. The achievements of students are evaluated not through all students but through a selected sample, with objective tests conducted. Additionally, surveys are conducted with school principals, teachers, students, and even parents to gather valuable information on factors affecting the quality of education in schools, including school resources, students' attitudes towards learning, teaching methods, and the extent to which learning is supported at home. These studies are conducted under high technical and scientific standards.

Moreover, depending on the specifics of the case being studied, effective methods such as observation are also used alongside applied research. The success of this program is reflected in the fact that in 2021, it celebrated its 20th anniversary.

The Progress in International Reading and Literacy Study (PIRLS) is a large-scale international assessment aimed at measuring the reading comprehension and literacy levels of primary school students. This study compares the reading and literacy skills of young students across different countries and provides data to improve reading and teaching practices, thus contributing to educational policy at the state level.

The PIRLS study has two main objectives: assessing students' literary experience through reading and evaluating how they use the information they acquire. Additionally, the study continuously adapts to the times, enhancing its evaluation criteria to align with modern requirements. For instance, in 2021, for the first time, digital tasks were planned for students, marking a shift towards ePIRLS for online reading assessments on computers.

In Uzbekistan, this research is being conducted by the National Center for the Organization of International Educational Research under the State Inspection for Education Quality Control of the Republic of Uzbekistan, in collaboration with the Ministry of Public Education of Uzbekistan. In line with the Presidential Decree of April 29, 2019, Uzbekistan has set the goal of entering the top 30 leading countries in the PISA rankings by 2030. This includes creating a national system for evaluating the quality of education, particularly focusing on literacy in reading, mathematics, and science.

PIRLS evaluates reading literacy, defined as the ability to understand and use written forms of language that society demands and values, as well as to extract meaning from texts in various forms. During the assessment, students are evaluated based on their ability to locate explicit information, draw conclusions, interpret and synthesize information, and analyze and evaluate the content, language features, and structure of the text.

In the PIRLS assessment, students' reading abilities are assessed in two categories:

1. Reading for literary experience.

2. Reading to acquire and use information.

The PIRLS study evaluates four key aspects of reading comprehension:

- ✓ Finding clearly stated information.
- ✓ Drawing inferences.
- ✓ Interpreting and synthesizing information.
- ✓ Analyzing and evaluating the content, language features, and structure of the text.

Texts in the study vary in complexity, ranging from 400-800 words on average. For countries with lower literacy levels, texts may range from 400-500 words. ePIRLS texts, however, may include up to 1000 words. The texts are designed to be engaging for 9-10-year-olds and avoid overly familiar or culturally specific topics.

PIRLS assesses reading literacy levels as follows:

- ➢ Highest level (625 points or more): Students understand the entire text and can relate different parts of the text to each other. They can explain the author's ideas and support their reasoning with evidence from the text.
- ➢ High level (550 points): Students understand the key messages of the text, draw conclusions based on the text, evaluate both the content and the form of the text, and can analyze its language features.
- ➢ Intermediate level (475 points): Students can locate information in the text, draw conclusions based on the structure and language features of the text.
- ➢ Low level (400 points): Students can identify explicitly stated and easily identifiable information in the text.

The PIRLS assessment uses a variety of methods to score responses, including selecting correct answers (1 point per correct answer), marking sequences (1 point per correct sequence), and grading open-ended tasks based on their complexity (1-3 points).

Conclusion:

It can be concluded that creativity is an essential component of pedagogical activity and an objective professional necessity for teachers. Creativity reflects the teacher's ability to understand and develop their internal resources for constructive and non-standard thinking, as well as their experience.

Recognizing creativity as a personal and professional development resource allows for positive growth dynamics within the context of a teacher's professional crises, their transition to professionalism, and their ability to exhibit adaptability and innovative thinking. This creativity ensures the teacher can handle unexpected situations, organize the educational process according to students' individual characteristics, and incorporate innovative methods into the learning process, which ultimately helps develop students' creative abilities and enrich their intellectual potential.

The issue of developing students' creative abilities has always been important, and the methods, forms, and tools used in this process are constantly evolving. Since school education lays the foundation for students' learning, it is important to cultivate creativity early in their educational journey. Therefore, developing creativity in students, improving their creative activities, and enhancing the learning process in a dynamic, innovative way are crucial for shaping well-rounded individuals.

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